

### Amendments to the Claims

1. (Currently amended) A method of surface treatment of a titanium metal comprising

plasma carburizing in an atmosphere comprising a carburizing gas having a composition thereof adjusted such that an (H/C) atomic weight ratio of hydrogen atoms (H) to carbon atoms (C) is  $1 \leq H/C \leq 9$  at a pressure of 13-400 Pa and a temperature of 400-690 °C.

2. (Currently amended) A method of surface treatment of a titanium metal comprising heating the titanium metal to a temperature of 400-690 °C in a cleaning gas atmosphere containing hydrogen gas,

subjecting the surface of the titanium metal to cleaning by applying a DC voltage of 200-1500 V, and

plasma carburizing in an atmosphere comprising a carburizing gas having a composition thereof adjusted such that an (H/C) atomic weight ratio of hydrogen atoms (H) to carbon atoms (C) is  $1 \leq H/C \leq 9$  at a pressure of 13-400 Pa and a temperature of 400-690 °C.